

## ABSTRACT OF THE DISCLOSURE

An electron emitter includes an emitter element made of  
a dielectric material, and an upper electrode and a lower  
5 electrode. A drive voltage is applied between the upper  
electrode and the lower electrode for emitting electrons  
from the emitter element. The upper electrode is formed on  
an upper surface of the emitter element, and the lower  
electrode is formed on a lower surface of the emitter  
element. The emitter element is exposed through a plurality  
10 of through regions of the upper electrode. Peripheral  
surfaces around the through regions facing the emitter  
element are spaced from the emitter element.